



Dart Hawkesbury  
1270 Aberdeen St. Hawkesbury, ON K6A 1K7 Canada  
Tel (613) 632-5200

# Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
PO040153	MES002-VC	1	1	Net 30	M304B0.250x0.500	304 Bar .250 X .500 ; MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft				200	6/29/2018	200		S088677	Stock	6/28/2018	\$ 4.25 / ft	5		\$850.00	Metaux Solutions
		2	1		M17-4-H900-R0.250	17-4 SS H900 Round Bar 0.250" ; M174PH- H900R0.500 MATERIAL: 17-4 PH COND. H900 AS PER AMS 5643				12		12		S088678	Stock	6/28/2018	\$ 23.40 / ft	5		\$280.80	Metaux Solutions
		3	1		M17-4-H1150-R2.750	17-4 SS H1150 Round Bar 2.750" ; MATERIAL: 17-4 PH CONDITION H1150 receive ft				6		6		S088480	Stock	6/28/2018	\$ 184.65 / ft	5		\$1,107.90	Metaux Solutions

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
		4	1A		M17-4-H900-B0.250X4.000	17-4 SS H900 Bar 0.250" X 4.000" MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST RUN ALONG LENGTH OF BAR MINIMUM YIELD TENSILE STRENGTH = 100KSI MINIMUM ULTIMATE TENSILE STRENGTH = 150 KSI receive ft				12		12		S088679	Stock	6/26/2018	\$69.05 / ft	5		\$828.60	Metaux Solutions
										Total:	230	230								\$2,333.35	

Plex 7/13/2018 8:37 AM dart.Tollis.Andrew

METAUX SOLUTIONS INC  
2625 BOUL JACQUES CARTIER EST  
LONGUEUIL, QUEBEC  
J4N 1L7 Tel.: 450 641-3330

Customer: 6323336

Shipping Order

27/06/2018

Order : 136010  
Reference : 40153  
Bid : 27770  
Ship : PICK UP / PICK UP

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

Ship To

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Qty. Delivered	B/O Qty
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
SF14124HR	304 STAIN FLA .25" X .500" HR 17 X 12.92'	219.64	219.64	0
SR14174	HT: 67736108 17-4PH ROU .250 DIA H900 1 X 11'	11	11	0
SF144174	ht: 6sh0596 17-4 PH FLAT 1/4" X 4.00" H900 1 X 12.58'	12.58	12.58	0
SR234174	HT: 273320 ST 17-4PH ROU 2.750 DIA H1150 1 X 6'	6	6	0

SHIP JOURNEY COLLECT  
JP

Shipping :  
Package No :  
Merchandise Received:

Ref. :



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# **PURCHASE ORDER** **PO040153**

**Supplier:** MES002-VC  
Metaux Solutions  
2625 boul Jacques-Cartier Est  
Longueuil  
QC  
J4N 1L7 Canada  
Phone: 800 558 8858  
Fax: 514 633 8044

**PO No:** PO040153

**PO Date:** 6/11/18

**Due Date:** 6/25/18

**Purchase Order**

**Revision:**

**Revision Date:**

**Ship-To Contact:** Lavoie, Chantal  
clavoie@dartaero.com

**E-MAILED**  
JUN 11 2018

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground

**Pymt Terms:** Net 30

**Freight Terms:**

**Special Comments:** bid 27770

## **Items**

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	M304B0.250x0.500 AT		304 Bar .250 X .500 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	6/15/18	200 ft	0 ft	200 ft	\$4.25/ft	\$850.00
2	M17-4-H900- R0.250 AT		17-4 SS H900 Round Bar 0.250" : : M174PH-H900R0.500 MATERIAL: 17-4 PH COND. H900 AS PER AMS 5643	Firmed	6/25/18	12 ft	0 ft	12 ft	\$23.40/ft	\$280.80
3	M17-4-H1150- R2.750 AT		17-4 SS H1150 Round Bar 2.750" : MATERIAL: 17-4 PH CONDITION H1150 receive ft	Firmed	6/25/18	6 ft	0 ft	6 ft	\$184.65/ft	\$1,107.90
4	M17-4-H900- B0.250X4.000 AT		17-4 SS H900 Bar 0.250" X 04.000" : MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST RUN ALONG LENGTH OF BAR MINIMUM YIELD TENSILE STRENGTH = 100KSI MINIMUM ULTIMATE TENSILE STRENGTH = 150 KSI receive ft	Firmed	6/25/18	12 ft	0 ft	12 ft	\$69.05/ft	\$828.60

**Grand Total: \$3,067.30**

## **Order Notes**

*CLP*

## Order Notes

## Procurement Quality Clauses

A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)  
A026 certification of material conformance  
A041 quality management system  
A042 dart notification by supplier  
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 6/11/18 8:17 AM dart.lavoie.chantal

METAUX SOLUTIONS INC  
2625 BOUL JACQUES CARTIER EST  
LONGUEUIL, QUEBEC  
J4N 1L7 Tel.: 450 641-3330

Bid 05/06/2018 27770

Sales Rep. : JEROME PRIMEAU  
Reference : chantal  
Expiration Date : 03/09/2018

Customer: 6323336

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

Ship To :

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Price	Total	Tx
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N				
SR14174	17-4PH ROU .250 DIA H900 1 x 12' r/l ht;	12	23.40	280.80 ✓	A
SF144174	17-4 PH FLAT 1/4" X 4.00" H900 1 X 12' R/L HT;	12	69.05	828.60 ✓	A
SR234174	ST 17-4PH ROU 2.750 DIA H1150 1 X 6' HT;	6	184.65	1 107.90 ✓	A

7/10 DAYS

304 Bo. 250 x 0.500  
x 200ft

A) Regist :	COPY	Subtotal	2 217.30
		HST :	288.25
		Total :	2 505.55

# CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 01 of 02

CUSTOMER ORDER NUMBER  
NUMÉRO DE COMMANDE DU CLIENT

Certification Date  
19-JUN-2018

44926-J  
PART NUMBER/NUMÉRO DE PIÈCE  
511673

voice Number  
T380992

SOLD TO: METAUX SOLUTIONS INC.  
VENDU À:

SHIP TO:  
EXPÉDIÉ À:

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1L7

METAUX SOLUTIONS (RIVE-SUD)

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1

Description: 17-4 HRAP BAR SOL ANN ASTM A564  
1/4 X 4 FLAT X 12" R/L  
HEAT: 273320  
ITEM: 511673

Line Total: 44 LB

## Specifications:

AMS 5643 V

AMS 2303 F

ASTM F899 12

ASTM A564 T630 13  
AMS H 6875 B

ASME SA564 T630 15  
ASTM A370 17

## CHEMICAL ANALYSIS

C	SI	MN	CR	MO	CU	NI	CO
0.033	0.42	0.5300	15.19	0.22	3.28	4.61	0.068
P	S	N	TA	NBTA			
0.025	0.001	0.037	0.0015	0.273			

RCPT: R483230

COUNTRY OF ORIGIN : ITALY

## MECHANICAL PROPERTIES

DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
COND A				IN AREA	BHN
					343
DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
DEV: H900 L	KSI	KSI	IN 02 IN	IN AREA	BHN
	180.0	201.0	17.0	56.0	430

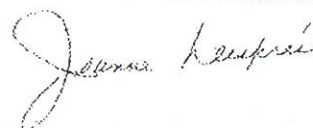
GRAIN SIZE : 5 -

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrites du certificat d'essais du fabricant après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE  
GÉRANT DE L'ASSURANCE QUALITÉ



# CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 02 of 02

CUSTOMER ORDER NUMBER  
NUMÉRO DE COMMANDE DU CLIENT

Certification Date  
19-JUN-2018

44926-J  
PART NUMBER/NUMÉRO DE PIÈCE  
511673

Invoice Number  
T380992

SOLD TO: METAUX SOLUTIONS INC.  
VENDU À:

SHIP TO:  
EXPÉDIÉ À:

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1L7

METAUX SOLUTIONS (RIVE-SUD)

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1

Description: 17-4 HRAP BAR SOL ANN ASTM A564  
1/4 X 4 FLAT X 12' R/L  
HEAT: 273320

ITEM: 511673

Line Total: 44 LB

MATERIAL IS FREE FROM MERCURY CONTAMINATION  
THERMAL TREATMENT: OK  
SOL ANNEALED 1904F 1 HR  
AIR COOLED TO BELOW 90F  
MACRO: OK  
MICRO1: OK  
AMS NO :2303  
SEVERITY :0.0  
FREQUENCY:0.0

## COMMENTS

melt/mfg italy  
red ratio 49.8:1  
dfars compliant

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Material did not come in contact with mercury while in our possession./Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE  
GÉRANT DE L'ASSURANCE QUALITÉ



# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 17-4 PH / TYPE 630 / S17400 SS BAR  
GRAIN MUST BE ALONG LENGTH OF BAR  
MINIMUM YIELD STRENGTH PER TABLE  
MINIMUM ULTIMATE STRENGTH PER TABLE

SPECIFICATION: AMS 5604 OR AMS 5643 OR ASTM A693 OR ASTM 564

PART NUMBER: M17-4-| HHHH-| B | T.TTT | X | WW.WWWW | WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)  
COND | THICK | WIDTH | T.TTT SPECIFIES THE THICKNESS  
WWW.WWWW SPECIFIES THE WIDTH

MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS  
MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE  
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

EXAMPLES:

PART: 0.250" X 4.000" BAR MIN UTS = 150 KSI, MIN YTS = 100 KSI  
1.000" X 2.500" BAR H900 CONDITION  
0.500" X 3.250" BAR H1025 CONDITION  
0.750" X 2.500" BAR A CONDITION

RELEASED  
2017-10-31  
Ecm17-728

APPROVED

B	ADD MATERIAL CONDITION AND REFORMAT DRAWING (CIR17-107)	NO	17.09.14
A	NEW ISSUE	DS	02.04.18
REV.	DESCRIPTION	BY	DATE
DESIGN	NO		
DRAWN	NO		
CHECKED	CP		
MFG. APPR.	DD		
APPROVED	WM		
DE APPR.	CP		
DATE	17.09.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. M17-4-B REV. B SHEET 1 OF 1 SCALE NTS 17-4 SS BAR COPYRIGHT © 2002 BY DART AEROSPACE LTD NOT TO BE USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD			

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M174-H900-60.250x4.000  
 DATE: 18/06/28

PO / BATCH NO.: P0040153/5088679

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 12.58'  
 QUANTITY INSPECTED: 12.58  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.250"  
 THICKNESS RECEIVED: 0.250"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	N	<u>AMS 5643</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	N	<u>H7:273320</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AS</u> DATE: <u>18/06/28</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 01 of 02

CUSTOMER ORDER NUMBER  
NUMÉRO DE COMMANDE DU CLIENT

Certification Date  
19-JUN-2018

44926-J  
PART NUMBER/NUMÉRO DE PIÈCE  
510497

Invoice Number  
T380991

SOLD TO: METAUX SOLUTIONS INC.  
VENDU À:

SHIP TO:  
EXPÉDIÉ À:

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1L7

METAUX SOLUTIONS (RIVE-SUD)

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1

Description: 17-4 SOL ANN CF BAR

1/4 RD X 12' R/L

HEAT: 6SH0596

ITEM: 510497

ASTM A564

Line Total: 2 LB

Specifications:

AMS 5643 U

ASTM A388 16

ASTM F899 12B

ASTM A564 T630 13  
AMS 2303 F

ASME SA564 T630 13  
EN 10204 3.1

## CHEMICAL ANALYSIS

C	SI	MN	P	S	NI	CR	MO
0.02	0.46	0.66	0.026	0.001	4.30	15.33	0.10
CU	NBTA	NB	TA				
3.38	0.23	0.23	0.0044				

RCPT: R378229

COUNTRY OF ORIGIN : TAIWAN

## MECHANICAL PROPERTIES

DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
COND A				IN AREA	BHN
					315
DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
DEV: H900 L	KSI	KSI	IN 02 IN	IN AREA	BHN
	220.0	221.0	15.0	61.0	421

GRAIN SIZE : 8

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Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES

MANAGER QUALITY ASSURANCE  
GÉRANT DE L'ASSURANCE QUALITÉ



# CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 02 of 02

CUSTOMER ORDER NUMBER  
NUMÉRO DE COMMANDE DU CLIENT

Certification Date  
19-JUN-2018

44926-J  
PART NUMBER/NUMÉRO DE PIÈCE  
510497

Invoice Number  
T380991

6

SOLD TO: METAUX SOLUTIONS INC.  
VENDU À:

SHIP TO:  
EXPÉDIÉ À:

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1L7

METAUX SOLUTIONS (RIVE-SUD)

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1

Description: 17-4 SOL ANN CF BAR  
1/4 RD X 12' R/L  
HEAT: 6SH0596

ITEM: 510497

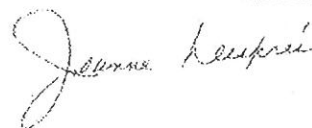
ASTM A564  
Line Total: 2 LB

MATERIAL IS FREE FROM MERCURY CONTAMINATION  
NO WELD REPAIR PERFORMED ON MATERIAL  
MACRO: OK  
MICRO1: OK

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Material did not come in contact with mercury while in our possession./Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE  
GÉRANT DE L'ASSURANCE QUALITÉ

# SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL 17-4 PH / S17400 / TYPE 630 SS ROUND BAR  
MINIMUM YIELD STRENGTH PER TABLE  
MINIMUM ULTIMATE STRENGTH PER TABLE

△ SPECIFICATION: AMS 5843 OR ASTM A564

△ PART NUMBER: M17-4-1 HHHH-R X XXX WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)  
X XXX = DIAMETER (IN INCHES)

△ MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR  
TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS  
MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR  
APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE  
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND  
SHOULD ALWAYS BE HEAT TREATED

△ EXAMPLES:

PART NUMBER  
4.000" DIAMETER BAR MINUTS = 150 KSI, MIN YTS = 100 KSI  
2.500" DIAMETER BAR H900 CONDITION  
3.250" DIAMETER BAR H1025 CONDITION  
0.750" DIAMETER BAR A CONDITION

RELEASED  
M 2017-10-31  
E(M17-728)

APPROVED

C	ADDED MATERIAL CONDITION (CIR17-107)	NO	17.09.14
B	REFORMAT DING, S17400 TYPE 630 ADDED TO PURCHASE MATERIAL (ZIN D8-1), ADD A364 SPEC (C8-1), REF PAR 08-020A	VS	10.05.20
A	NEW ISSUE	CP	05.03.16
REV.	DESCRIPTION	BY	DATE
DESIGN	NO		
DRAWN	NO		
CHECKED	CP		
MFG. APPR.	RA		
APPROVED	WM		
DE APPR.	CP		
DATE	17.09.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M17-4-R			
TITLE 17-4 SS ROUND BAR			
SHEET 1 OF 1			
SCALE NTS			
DATE 17.09.14			
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-H100-R0.250  
 DATE: 18/06/28

PO / BATCH NO.: P0040153/208678

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 11'  
 QUANTITY INSPECTED: 11'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.250"  
 THICKNESS RECEIVED: 0.250"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORROSION	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	ASTM A564
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
PHOTO REQUIRED	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	HT: 6540596
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> <span style="float: right; font-size: small;">DAS 9 9-89</span> DATE: <u>18/06/28</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



# CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 01 of 02

CUSTOMER ORDER NUMBER  
NUMÉRO DE COMMANDE DU CLIENT

Certification Date  
19-JUN-2018

44926-J  
PART NUMBER/NUMÉRO DE PIÈCE  
527141

Invoice Number  
T380993

SOLD TO: METAUX SOLUTIONS INC.

VENDU À:

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1L7

SHIP TO:  
EXPÉDIÉ À:

METAUX SOLUTIONS (RIVE-SUD)

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1

Description: 17-4 HR RT BAR COND H1150  
2-3/4 RD S/C 6'0" ( 72.0")

HEAT: 721Y

ITEM: 527141

ASTM A564

Line Total: 121.26 LB

## Specifications:

AMS 5643 V

AMS 2750 D

MIL STD 1685 A

ASTM A564 TYPE 630 13E1

AMS H 6875 B

EN 10204 3.1

ASME SA564 TYPE 630 13

AMS 2303

ASTM A388 S1

## CHEMICAL ANALYSIS

C	CB	CO	CR	CU	MN	MO	N
0.034	0.231	0.05	15.18	3.34	0.81	0.014	0.019
NI	P	S	SI	TA	TI	CBTA	
4.2200	0.019	0.017	0.57	0.005	0.0035	0.236	

RCPT: R478862

COUNTRY OF ORIGIN : USA

## MECHANICAL PROPERTIES

DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
COND H1150	KSI	KSI	IN 02 IN	IN AREA	BHN
	120.18	139.47	20.75	60.91	321

GRAIN SIZE : 8

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrites du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE  
GÉRANT DE L'ASSURANCE QUALITÉ



# CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 02 of 02

CUSTOMER ORDER NUMBER  
NUMÉRO DE COMMANDE DU CLIENT

Certification Date  
19-JUN-2018

44926-J  
PART NUMBER/NUMÉRO DE PIÈCE  
527141

Invoice Number  
T380993

SOLD TO: METAUX SOLUTIONS INC.  
VENDU À:

SHIP TO:  
EXPÉDIÉ À:

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1L7

METAUX SOLUTIONS (RIVE-SUD)

2625 BOUL JACQUES CARTIER EST  
LONGUEUIL QC J4N 1

Description: 17-4 HR RT BAR COND H1150  
2-3/4 RD S/C 6'0" ( 72.0")  
HEAT: 721Y  
ITEM: 527141

ASTM A564  
Line Total: 121.26 LB

MATERIAL IS FREE FROM MERCURY CONTAMINATION  
NO WELD REPAIR PERFORMED ON MATERIAL  
MACRO: OK  
MICRO1: OK  
AMS NO :2301  
SEVERITY :0.15  
FREQUENCY:0.25

## COMMENTS

MELT/MFG USA  
RED RATIO 9.8:1  
COMPLIES WITH DFAR 252.225-7009  
2011/65/EU ROHS COMPLIANT

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrites du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.  
The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession./Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES



MANAGER QUALITY ASSURANCE  
GÉRANT DE L'ASSURANCE QUALITÉ

# SPECIFICATION CONTROL DRAWING

**PURCHASE MATERIAL:** 17-4 PH / S17400 / TYPE 630 SS ROUND BAR  
MINIMUM YIELD STRENGTH PER TABLE  
MINIMUM ULTIMATE STRENGTH PER TABLE

**SPECIFICATION:** AMS 5843 OR ASTM A584

**PART NUMBER:** M17-4-1 HHHH-R X.XXX WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)  
X.XXX = DIAMETER (IN INCHES)

## MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

**NOTES:** MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS  
MATERIAL IN H800 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE  
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

## EXAMPLES:

**PART NUMBER**  
4.000" DIAMETER BAR MIN YTS = 150 KSI, MIN YTS = 100 KSI  
2.500" DIAMETER BAR H900 CONDITION  
3.250" DIAMETER BAR H1025 CONDITION  
0.750" DIAMETER BAR A CONDITION

RELEASED  
2017-10-31  
E(m17-728) 0A

APPROVED

C	ADDED MATERIAL CONDITION (CIR17-107)	NO	17.09.14
B	DIFFERENT DWG. S17400T17-4-1-001 ADDED TO PURCHASE MATERIAL (ZN 08-1), ADD ASMA SPEC (CS-1), REF PAR 08-020A	VS	10.05.20
A	NEW ISSUE	CP	05.03.16
REV.	DESCRIPTION	BY	DATE
DESIGN	NO		
DRAWN	NO		
CHECKED	CP		
MFG. APPR.	RA		
APPROVED	WM		
DE APPR.	CP		
DATE	17.09.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M17-4-R			
TITLE 17-4 SS ROUND BAR			
SHEET 1 OF 1			
SCALE NTS			
REV. C			
COPYRIGHT © 2005 BY DART AEROSPACE LTD			

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-H1150-R2-750  
 DATE: 18/06/21

PO / BATCH NO.: P0040153/5088480

MATERIAL CERT REC'D: \_\_\_\_\_  
 QUANTITY RECEIVED: 6.24  
 QUANTITY INSPECTED: 6.24  
 QUANTITY REJECTED: \_\_\_\_\_

THICKNESS ORDERED: 2.750"  
 THICKNESS RECEIVED: 2.750"  
 SHEET SIZE ORDERED: \_\_\_\_\_  
 SHEET SIZE RECEIVED: \_\_\_\_\_

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/>	N	
CORROSION	Y	<input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/>	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/>	N	ASTM A564
CORRECT THICKNESS	<input checked="" type="checkbox"/>	N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/>	N	47:7214
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/>	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AL / RD 13-07-06</u> DATE: <u>18/06/28</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



<b>BOLLINGHAUS</b> <b>STEEL</b> Bollinghaus Steel, SA DIN EN ISO 9001:2008 TÜV CERT No. 01 100 030458		Absoluteprüfung/MHI Test Certificate/Certif. de Qualidade <b>EN 10204:2004 / 3.1</b> Unsere Innere Verwelsung / Our Int. Ref / Ref Int <b>5600038278 000010</b>		No. / No.: <b>0000136628</b> Datum / Date / Data <b>19.12.2017</b>											
Spezifikation / Standards / Normas TYPE 304/UNS S30400 and TYPE 304/LUNS S30403 acc. to ASTM A276/A276M-16a, ASTM A182/A182M-16a, ASTM A193/A193M-16, ASTM A479/A479M-16a, ASTM A320/A320M-15a, ASTM A314-15, ASTM A262-15 Pract E, AMS QQ-S-763D, AMS 5639J, AMS 5647K, ASME SA479/SA479M, ASME SA276, ASME SA182/182M, ASME SA 193/SA193M, ASME SA320/SA320M, NACE MR0175-2015, execution as per ASTM A484/A484M-16.															
Kunde / Customer / Cliente -----			Endgültiger Kunde / Final Customer / Cliente Final -----												
Bestell Nr./Order Nr./Enc.Nr. <b>C110766</b>			Bestell Nr./Order Nr./Enc.Nr. <b>C110766.1</b>												
Produktgruppe / Product Group / Grupo Produto <b>AISI 304/L FLAT 1/4 X 1/2"</b>			Gewicht / Weight / Peso <b>1.059 lb</b>		Bunde / Bundle / Atados <b>01</b>										
Werkstoff-Nr. Material-no. Qualidade <b>1.4307</b>		Werkstoff-Normbezeichnung / Material standard grade / Norma do material <b>X 2 CrNi 18-9</b>													
Beschreibung / Description / Descrição Stainless steel flat bars, hot rolled, heat treated, straightened and pickled US DFAR 252.225-7009: MELT SOURCE: France / MFG: Portugal.															
Schmelzen Nr. Cast nr. / Fusão nr. <b>67736105</b>		Chemische Analyse in % / Chemical composition in % / Análise química em %													
EAF-AOD		C	0.018	Si	0.525	Mn	1.154	P	0.029	S	0.025	Cr	16.127	Ni	8.045
		Mo	0.376	Co	0.117	Cu	0.406	N	0.080	Ti	0.002	-	-	-	-
Proben Nr. Test no. Amostra no. <b>4036951.01.01</b>		ASTM E399 Kernschwingenpull Impact Test Resiliência {Charpy V}		Streckgrenze Yield point Tensão limít Rp 0.2 %		Dehngrenze 1% point Limite de extensão Rp 1,0%		Zugfestigkeit Tensile strength Tensão de ruptura Rm		Dehnung Elongation Alongamento		Einschnürung Reduction of area Coef. Estricho			
		[J]		[Ksi]		[Ksi]		[Ksi]		A5		4D			
		-		48		57		83		[%]		[%]			
										53.9		56.4			
												70.1			
Visuelle Kontrolle Visual Inspection Inspeção visual <input checked="" type="checkbox"/> <b>OK</b>		ASTM E10 Härte Hardness Dureza 195 [HB]		ASTM A262 Practice E Korrosionsbeständigkeit IC Test Corrosão Intermetálica <input checked="" type="checkbox"/> <b>OK</b>		Wärmebehandlung Heat treatment Tratamento térmico Annealed/Quenched 1900 °F (1050 °C) (water quenched)									
Maßkontrolle Dimensional inspection Inspeção dimensional <input checked="" type="checkbox"/> <b>OK</b>		ASTM E112 Korngröße Grain size Tamanho de grão 9		Autorisierter Repräsentant Authorized Inspection Representative Inspeção de Qualidade <b>396</b>		Vasco Ferreira (Q - VF)									
Verwechslungsprüfung Test of identity Teste de identificação <input checked="" type="checkbox"/> <b>OK</b>		Metallographische Untersuchung Micrographic test <input checked="" type="checkbox"/> <b>OK</b>													
Bemerkungen / Remarks / Observações Country of origin: Portugal. No weld repair done. Material is free of mercury and radiation contamination.						Bollinghaus Steel, SA Hiermit bestätigen wir, dass das Material der oben genannten Spezifikation entspricht. We confirm that this material meets the specification according to the mentioned standards. Confirmamos que este material respeta as especificações de acordo com as normas referidas.									

# SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL AISI 304/316 SS BAR OR AISI 304/316 SS PLATE  
(NOTE: AISI 303 NOT ACCEPTABLE)

△ SPECIFICATION:  
PART NUMBER: M304B | T.TTT | X | WW.WWWW |  
THICK | WIDTH |

WHERE "T.TTT" = THICKNESS IN INCHES  
AND "WW.WWWW" = WIDTH IN INCHES

△ EG. 0.5" X 3.0" BAR = M304B0.500X03.000  
EG. 0.5" X 12.0" PLATE = M304B0.500X12.000

RELEASED  
2010-11-30

C	ADDED PLATE TO PURCHASE MATERIAL. ADDED PLATE RELATED SPECIFICATIONS, AND EG. CHANGED TITLE FROM "304/316 BAR" TO "304/316 BAR/PLATE".		MB	10.11.25
B	REFORMAT DWG. ADD SPECS (ZN D8-1). REF PAR 08-020A		CP	09.07.15
A	NEW ISSUE		PH	05.08.10
REV	DESCRIPTION		BY	DATE
DESIGN	DRAWN		DATE	
CHECKED	M304B		DATE	
MFG. APPR.	M304B		DATE	
APPROVED	M304B		DATE	
DE APPR.	M304B		DATE	
DATE	10.11.25		DATE	
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA				
DRAWING NO. M304B				
REV. C				
SHEET 1 OF 1				
TITLE 304/316 BAR/PLATE				
SCALE NTS				
DATE 10.11.25				
COPYRIGHT © 2003 BY DART AEROSPACE LTD				

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304B0.250x0.500  
DATE: 18/06/28

PO / BATCH NO.: A0040153/5088677

MATERIAL CERT REC'D: Yes  
QUANTITY RECEIVED: 219.64'  
QUANTITY INSPECTED: 219.64'  
QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.250"  
THICKNESS RECEIVED: 0.250"  
SHEET SIZE ORDERED: —  
SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	ASTM A276
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	UT: 67736108
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>AT/10</u>		SIGNED OFF BY: _____	
DATE: <u>18/06/28</u>		DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in